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Improving Acquisition Through Innovation in Workforce Incentives

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Improving Acquisition Through Innovation in Workforce Incentives

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Abstract

The DoD spends approximately \$200 billion annually to develop, acquire, and sustain weapon systems. It relies on regulations, statutes, and business processes to ensure these systems are delivered cost-effectively while meeting system performance and schedule requirements. The acquisition system has delivered superior weapon systems with leading edge capabilities, providing a military advantage, but has a less-than-impressive track record for cost-effectiveness and on-schedule performance. Several approaches have been proposed, discussed, and debated to improve defense acquisition. Incentives for the workforce are chief among them. This paper proposes a model for altering the compensation structure of the workforce, tying it to the cost, performance, and schedule achievement of the programs to which the workforce is assigned. The underlying premise is that introducing an economic incentive and thereby a sense of ownership in acquisition outcomes to the workforce sector setting is critical to achieving efficiencies. This paper examines current research on financial incentives and performance improvements at the individual and organizational level as a basis for a performance-based compensation model.

Introduction

The issues with defense acquisition programs have been documented and discussed for several decades now, perhaps since the emergence of the defense industry as the developer and supplier of weapon systems to the Department of Defense (DoD). The weapon systems have undoubtedly provided the U.S. Armed Forces with an overwhelming advantage in force projection and application, but the question remains on the ability of the defense acquisition system to provide these capabilities cost-effectively and on schedule. Several recommendations have been made to improve the system, and many have suggested additional incentives for the acquisition workforce as a part of the solution. However, a specific proposal on what an incentive scheme should look like is missing. This paper addresses this gap with a proposed model for financial incentives tied to the long-term success of programs and underpins the model with research on financial incentives and their impact on individual and organization performance. The potential benefits along with the unintended consequences are also discussed.

Research Plan

This paper recaps the traditional issues associated with weapon system acquisition and follows with additional insights from experts in defense acquisition on addressing these issues.

Academic research on financial incentives and the impact on individual and organization performance are reviewed next to form the basis for a new approach to workforce compensation.



I then discuss a proposed incentive scheme for workforce compensation with financial incentives tied to long-term performance of weapon systems measured in terms of cost, schedule, technical performance, and sustainment metrics established for the system.

The paper then addresses the potential benefits and consequences of the incentive scheme and concludes with recommendations on additional topics that should be studied to validate the proposed incentive scheme.

Acquisition System Performance

In *Defense Acquisition Reform, 1969–2009: An Elusive Goal*, J. Ronald Fox (2011) cites Harvard University studies from 1962 that reviewed 12 major weapons programs from the 1950s and concluded “that development costs were generally significantly higher than originally estimated. Production costs also tended to exceed original estimates by significant margins. These systems also experienced schedule delays, which averaged 36 percent beyond the projected time for completion.” He added, “In the 1960s, cost increases continued to occur on major systems. No systems were found that had been completed at the cost projected, and none was found to have cost less than predicted.”

The *Performance of the Defense Acquisition System 2014, Annual Report* released by the Office of the Under Secretary of Defense for Acquisition, Technology, & Logistics (OUSD[AT&L], 2014) is a data-driven analysis of the acquisition system performance for 2014. The report shows that from 1992 to 2014, 16 programs had development contract cost growth of at least 200%, and 18 programs exhibited more than 100% cost growth in early production contract cost. The production contract cost growth does not differentiate between cost growth due to additional quantities and changes in unit prices. The development contract cost growth does not identify the growth due to contract scope changes as opposed to growth in cost of the original scope of the contract. Technical performance is measured along two dimensions. One is operational effectiveness, which is “a measure of the overall ability of a system to accomplish a mission when used by representative personnel in the environment planned or expected for operational employment of the system considering organization, doctrine, tactics, supportability, survivability, vulnerability, and threat” (OUSD[AT&L], 2014). A second measure of technical performance is operational suitability—“a composite evaluation that considers a system’s safety, interoperability, availability, maintainability, and reliability” (OUSD[AT&L], 2014). The report showed that, excluding satellites, the operational effectiveness was between 80% and 90% for all programs, and operational suitability for 123 programs was below 65%, and for 65 programs was at 80%. Weapon systems pushing the technology envelope and reaching 90% effectiveness demonstrate good technical performance. However, operational effectiveness at 60% suggests that sustainment costs over the operational life of the systems will be higher. The technical performance metrics taken in conjunction with development contract cost increases and early production cost increases suggest that additional avenues must be explored to improve the performance of the acquisition system.

The two reports suggest that while significant efforts have been made to improve the system from the 1960s to the present day, cost, technical, and schedule problems, as reflected in the performance of the system, persist. This then warrants exploring innovative approaches to address these issues with a focus on human capital and financial incentives to simulate private sector behavior. The paper explores these solutions in the ensuing sections.



Acquisition System Improvement—Workforce

Over the years, several approaches have been discussed to reform the acquisition system to produce better outcomes. The Business Executives for National Security (BENS) Task Force on Defense Acquisition Law and Oversight published its findings in July 2009 (Task Force on Defense Acquisition Law & Oversight, 2009). Key recommendations related to the acquisition workforce included the following:

- Assign to the Service Chiefs responsibility for establishing, managing and maintaining a highly competent acquisition workforce, including education, training, career path development and succession planning—the latter is rarely done today in any institutional fashion. Appropriate staffing standards should be created for all critical positions. (Task Force on Defense Acquisition Law & Oversight, 2009)
- Streamline the hiring and rewarding of key acquisition personnel, including providing appropriate compensation and other forms of incentives. Authority to quickly employ qualified individuals as well as to dismiss individuals who are not performing in their assigned responsibilities should be vested in the Secretary of Defense. (Task Force on Defense Acquisition Law & Oversight, 2009)

The task force also stated that

today the government too often finds itself with minimally experienced and transient individuals leading major acquisition programs, able to attract new people only after long delays, unable to couple rewards to performance, and with many senior positions simply unoccupied. Talented and dedicated people can often overcome a poor organizational structure, but a good organizational structure cannot overcome inadequate performance. When qualified people are combined with sound organizations and practices, success is virtually assured. The acquisition process, unlike most government pursuits, is a business function. It demands skills and talents that are far more common to the business world than to government and military operations. (Task Force on Defense Acquisition Law & Oversight, 2009)

The most recent compendium of views on acquisition reform was published by the U.S. Senate Permanent Subcommittee on Investigations (2014). Thirty experts provided their views on ways to reform the system. Several themes emerged from the experts, and two in particular have specific relevance to this paper:

- “Nearly half of the experts feel that cultural change is required while over two-thirds believe improving incentives for the acquisition workforce is necessary for reform” Permanent Subcommittee on Investigations, 2014).
- “Two-thirds of the contributors feel that training and recruiting of the acquisition workforce must be improved” (Permanent Subcommittee on Investigations, 2014).

The 2009 task force report and the 2014 Senate study are focused on workforce issues as central to improving the defense acquisition system.

The Department of Defense 2014 Study of Program Manager Training and Experience (2014) goes even further, suggesting,

The Secretary of Defense and the Service Secretaries should implement clearer, more tangible recognition, incentives, and enhanced promotion



opportunities for outstanding program management. Cost performance on major acquisition programs should be considered as a major weighting factor for this recognition. The continued absence of relevant rewards belies government statements of dedication to achieving significant cost reductions on defense acquisition programs. The cost savings achieved in implementing this recommendation can far outweigh any implementation cost to the Defense Department and the taxpayer.

In *Defense Acquisition Reform, 1969–2009: An Elusive Goal*, Fox (2011) had similar findings:

A personnel board, comprising senior military and civilian acquisition officials, should review applicants for all major positions and be authorized and motivated to remove government personnel whose performance is marginal or inadequate. The board should also have the authority to provide significant financial rewards for outstanding performance. If, as has been the case for five decades, the military promotion system will not respond to repeated attempts to provide attractive promotions and career opportunities for acquisition managers to attain flag or civilian equivalent grade, then the Defense Department should provide other incentives, such as additional pay and incentive compensation. If an extra \$30,000 or more per year were paid to selected military officers and civilians (at the rank of O–6 and above) and career regulations permitted them to remain in the acquisition field, incentives to retire and join the defense industry would be minimized. The extra cost would be negligible compared to the benefits of retaining experienced acquisition managers. Such a proposal is not without precedent. Military officers on flight status and submarine duty as well as medical and dental officers and other special-skilled officers currently receive additional pay. Indeed, Sweden’s government acquisition agency addresses the problem of attracting and retaining senior people—military and civilian—by a special law that allows an added salary increase for crucial acquisition positions. Thus, a Swedish colonel serving as a program manager can receive a significantly higher salary than other colonels and even the director general of the agency. This incentive provides prestige and draws highly qualified, experienced people to senior acquisition positions.

Nathaniel H. Sledge, in “Pentagon Procurement Reforms Face Slim Chances of Success” (2012), argues that

to ensure compliance, there must be positive incentives over punitive measures. Employing the carrot more often than the stick will make the establishment of an enduring and sustainable culture of efficiency more likely. Incentives must be aligned with performance to increase their credibility and reinforce the appropriate behaviors. Efficient program managers should benefit from “benign” oversight, while inefficient programs should get “help” but not sanctions; that is, unless the program is a candidate for restructuring.

All of the above suggests that, in the collective assessment of defense acquisition experts, solutions must focus on the workforce and financial incentives in particular. Any reform efforts must include targeted actions that systemically address workforce “ownership” of the business outcomes of the acquisition process.



Incentives and Individual and Organization Performance Improvement

Steven J. Condly, Richard E. Clark, and Harold D. Stolovitch (2003) completed a meta-analytic review of 45 studies on the effects of incentives on workplace performance and documented the impact of several factors that influenced performance increases. This study is particularly relevant because the studies included in the meta-analysis required a baseline measurement prior to the introduction of incentives to measure improvements after the introduction of incentives. Additionally, the meta-analytic approach summarizes the results of many studies across several factors. These include location or type of organization (business or government), length of the incentive program, type of incentive (money or social recognition), competition (incentives to only the highest performers versus everyone that reaches a preset level), type of work (mental or physical), type of study (simulation, experiment, field setting), and type of performance motivated choice, which can be working toward new or established goals, showing persistence, or working smarter in either area.

They found that team-based incentives provided greater gains to the tune of 48% improvement in performance when compared to a gain of 19% for incentives tied to individual contributions. Monetary incentives resulted in a 27% gain when compared to non-monetary incentives, which resulted in a 13% gain. Programs with only top performers receiving incentives versus programs where everyone had an opportunity to earn an incentive showed no statistical difference, but resulted in an average gain of 22%. Incentives that were in effect for over six months resulted in a 44% improvement in performance compared to 29% for programs between one and six months and 20% for programs lasting less than a month.

These results provide a basis for considering team-based monetary incentives in compensating the acquisition workforce.

Mark Huselid (1995), in his paper, "The Impact of Human Resource Management Practices on Turnover, Productivity, and Corporate Financial Performances,"

comprehensively evaluated the links between High Performance Work Practices and firm performance. Results based on a national sample of nearly one thousand firms indicate that these practices have an economically and statistically significant impact on both intermediate employee outcomes (turnover and productivity) and short- and long-term measures of corporate financial performance.

Huselid further goes on to include in high performance work practices comprehensive recruitment and selection procedures, incentive compensation and performance management systems, and extensive employee training and involvement. The acquisition workforce may not represent the sample used by Huselid (1995) in his study, but the relationship established by his study should apply on an empirical basis to the workforce, thus building the case for the use of high performance work practices in the Acquisition, Technology, and Logistics organization, including the use of incentive compensation.

Alfie Kohn in "Why Incentive Plans Cannot Work" in the *Harvard Business Review* (1993) presents several reasons on why no reward system can match intrinsic motivation as a driver of individual performance. Kohn suggests that rewards and punishments are two sides of the same coin attempting to manipulate behavior; he also suggests that using rewards to improve performance while ignoring underlying organizational issues impacting performance is not likely to result in lasting change. Kohn (1993) proposes that rewards



introduce temporary behavior changes that disappear when the rewards are eliminated and also states that

whenever people are encouraged to think about what they will get for engaging in a task, they become less inclined to take risks or explore possibilities, to play hunches or to consider incidental stimuli. In a word, the number one casualty of rewards is creativity.

Daniel H. Pink, in summarizing his book *Drive—The Surprising Truth About What Motivates Us*, states “Carrots & sticks are so last century. *Drive* says for 21st century work, we need to upgrade to autonomy, mastery, purpose.” The argument is similar to Kohn’s in that intrinsic motivation with control over work, ability to master and develop one’s expertise, and having a higher purpose to work other than profit is what drives productivity in creative work. He suggests that rewards-based compensation may benefit routine, monotonous work efforts where intrinsic motivation is low.

The counter to Kohn and Pink’s conclusions is presented by Gerald E. Ledford and Barry Gerhart (2013) in “Negative Effects of Extrinsic Rewards on Intrinsic Motivation: More Smoke Than Fire.” The authors have catalogued theories on motivation and research on the effects of rewards on motivation and performance and conclude

that rewards clearly tend to increase performance because they increase total motivation (extrinsic plus intrinsic). Detrimental effects of extrinsic rewards are not inevitable, and appropriate use of rewards can increase intrinsic as well as extrinsic motivation. Negative effects on motivation can be averted systematically by clearly understanding and avoiding the conditions that could create a negative effect. (Ledford & Gerhart, 2013)

They further add,

Perhaps the most important lesson from the research is that the effects of the reward depend on the social context in which it is provided. If the reward is appropriately implemented, it should enhance, rather than undermine, intrinsic motivation—making the incentive effect that much more powerful than if it relies on extrinsic motivation alone. This requires appropriate communication about the importance of the task and the nature of the incentive; specific, meaningful performance goals; appropriate feedback and support from supervisors; selection systems that help sort out those who do not fit the desired culture (and reward strategy) of the organization; and an organizational culture in which incentives are supported by managers and employees. This discussion serves as a reminder that contextual factors are at least as important to success or failure of reward programs as the technical merits of the programs. (Ledford & Gerhart, 2013)

The implications of the research are significant for the defense acquisition enterprise where the requirements and conditions, as follows, for enhanced intrinsic motivation have been established:

- A motivated workforce that is fairly compensated in base salary and benefits
- A workforce engaged in a high purpose mission charged with developing and delivering sophisticated tools for the defense of the nation and protection of the troops
- A highly supportive work environment that encourages innovation and skill development with training and ample opportunity for creative work



When the above conditions are combined with a properly structured rewards system, superior results can be expected.

The next section describes an approach that leverages the acquisition work environment to propose a system of rewards that can deliver these results.

Proposed Approach

The paper assumes that every acquisition workforce employee is associated with a program that is in the pre-systems acquisition, systems acquisition, or sustainment phase in its lifecycle. While industry uses stock grants or stock options that vest over time to tie incentives to long-term gains of the organization, this concept can be captured by the term Program Credits (PCs). Every program has PCs allocated to it based on Affordability Caps established for the program, and these PCs are available for distribution to the workforce. Employees receive program credits based on an appraisal of the program and its performance relative to cost, schedule, technical performance, meeting affordability targets, and should-cost objectives, or other relevant measures of program success measured at program milestones or annually depending on the phase the program is in. Each program credit has a dollar value associated with it, and the credits vest in an employee's account over a period of time ranging from four to 10 years at a variable rate, with 40–45% vesting in the employee's account by the end of the Production and Deployment phase and 55–60% vesting over the operations and maintenance phase. No vesting occurs until the program reaches the beginning of the sustainment phase. Rapid acquisition programs or smaller increments may reach sustainment in 4–5 years, while larger programs may reach sustainment in more than five years though the acquisition system has a goal of reaching the production and deployment phase in five years from program initiation.

The longer an individual is associated with a program, the greater his or her contribution to the success of the program and, therefore, the greater his or her benefit. This approach also enables the DoD to skew vesting toward meeting performance and cost objectives during the operations and maintenance phases of a program. The acquisition workforce has a greater incentive to focus on and optimize the system design for lower sustainment costs during the earlier phases and continue to work on the program through the sustainment phase to ensure cost targets are achieved and realize the personal financial benefits of its contributions and dedication. The defense acquisition system relies on the defense industry contractors to design and produce systems. The defense acquisition workforce provides oversight and insight on the contractors' efforts, but now with a sharper focus on meeting program objectives.

This approach also allows negative credits to be assessed to an employee's program credit balance when a program does not meet its targets in later phases after meeting targets in earlier phases. As an example, an employee accumulates 50,000 program credits during the Technology Development and Engineering and Manufacturing Development phases as a result of exceeding program objectives. However, during sustainment if the program does not meet critical materiel readiness objectives, negative credits would be assigned to all employees that were associated with the program whether or not they are on the program during the sustainment phase. This is intended to drive the workforce that is on the program during the earlier phases to focus on the longer term sustainability and lifecycle costs of the program for its own benefit and the DoD's benefit.

Over an individual's career, based on all the programs that person has worked on, the individual's vested credits can be substantial if the programs have met all of their objectives. The incentive for the individual is to ensure the success of all the programs he or she has worked on. If this incentive extends to the entire acquisition workforce, we could



see significant benefits and efficiencies across the entire system. The vested credits become available to the employees when they retire or leave government service.

Critical Factors

The PCs an employee accumulates over time have to be significant for the employee to demonstrate ownership of programs they participate in during their career to deliver superior results.

The allocation of credits has to be impartial, fair, and commensurate with an employee's contributions. Allocations can vary across employees just as in industry, stock option allocations vary across employees based on their responsibilities.

All employees associated with a program must be eligible for PCs.

Implementation

Funds must be appropriated by Congress and managed by the DoD. PCs must be assigned to a program based on the affordability and total lifecycle cost of the system. PCs must be allocated to the workforce and vested based on an approved scheme.

A hypothetical example of how such a system can be implemented and administered follows. A program is currently in a Technology Development (TD) Phase, and an Affordability target of \$5 billion has been established for the program:

- **Affordability Target (LCC):** \$5000 million
- **Total PCs to be allocated to the program workforce over the life of the program:** \$50 million (1% of Affordability Target)

Table 1. Program Credit Estimation Scheme

Phase	TMRR	EMD	P&D	O&M
Length of Phase	2 years	3 years	4 years	11 years
Program Credits (%)	10%	15%	20%	55%
Program Credits	\$5M	\$7.5M	\$10M	\$27.5
Eligible Workforce	150	250	350	400
Average Program Credits/Employee	\$33,000	\$30,000	\$28,000	\$67,000
Annualized Program Credits/Employee	\$16,000	\$10,000	\$7,100	\$6,100

Note. Refer to Fox (2011, pp. 21–27) for a definition of the phases; the TMRR phase replaced the Technology Development phase referenced in the DoD 5000.02 (2008) Instruction.

TMRR—Technology Maturation and Risk Reduction

EMD—Engineering and Manufacturing

P&D—Production and Deployment

O&M—Operations and Maintenance

Interpreting the Table

- The program credits per employee are an average and should be based on the relative contribution and importance of the employee to the program's success. The credits for the employee can vary.
- These credits are allocated to the employee, but vesting may not begin until year seven once the program enters the operation and sustainment phase after a full year of production.



The following tables show how during the program life, credits will be allocated and then vested and available for the employee.

Scenario 1

An employee stays with the program and the program meets all the objectives during all the phases (see Table 2).

Table 2. Scenario 1 Program Credit Allocation

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12
Program Credits Allocated	\$16,000	\$16,000	\$10,000	\$10,000	\$10,000	\$ 7,100	\$13,200	\$13,200	\$ 13,200	\$ 6,100	\$ 6,100	\$ 6,100
Cumulative Program Credits Allocated	\$16,000	\$32,000	\$42,000	\$52,000	\$62,000	\$69,100	\$82,300	\$95,500	\$108,700	\$114,800	\$120,900	\$127,000

Table 3. Scenario 1 Program Credit Vested and Available Upon Retirement or Leaving Government

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12
Annual Vested	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$16,000	\$16,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 7,100
Reductions due to not meeting Sustainment Objectives							\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Available If Employee Retires/Leaves Govt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$16,000	\$32,000	\$ 42,000	\$ 52,000	\$ 62,000	\$ 69,100

As Table 3 indicates, assuming a program meets all its objectives during the TD, EMD, P&D, and O&M phases and an employee has been with the program throughout this effort, he or she can be vested in a significant number of program credits and will be able to realize them upon retirement or leaving government service.

Scenario 2

An employee stays with the program and the program meets the objectives during the TD and EMD phases but does not meet the objectives during the O&M Phase (see Table 4).

Table 4. Scenario 2 Program Credit Allocation

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12
Program Credits Allocated	\$16,000	\$16,000	\$ 10,000	\$10,000	\$10,000	\$ 7,100	\$ 7,100	\$ 7,100	\$ 7,100	\$ 6,100	\$ 6,100	\$ 6,100
Cumulative Program Credits Allocated	\$16,000	\$32,000	\$ 42,000	\$52,000	\$62,000	\$69,100	\$76,200	\$83,300	\$ 90,400	\$ 96,500	\$102,600	\$108,700

Note. Cumulative Program credits allocated is less when sustainment objectives are not met.



Table 5. Scenario 2 Program Credit Vested and Available Upon Retirement or Leaving Government

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12
Annual Vested	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$16,000	\$16,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 7,100
Reductions due to not meeting Sustainment Objectives												
Available If Employee Retires/Leaves Govt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,900	\$19,800	\$ 23,700	\$ 33,700	\$ 43,700	\$ 50,800

Table 6. Dollars Available to Employee in Scenarios 1 and 2

Available if Employee Retires/Leaves Government Service						
Scenario 1						
Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	
\$16,000	\$32,000	\$42,000	\$52,000	\$62,000		\$69,100
Scenario 2						
Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	
\$9,900	\$19,800	\$23,700	\$33,700	\$43,700		\$50,800

The model in Table 6 attempts to show a difference between the dollars available to the employee in Scenario 1 versus Scenario 2.

This is a notional model; several factors can be adjusted to determine the payout available to the employee. The credits allocated to the earlier phases will be important to ensure good supportability is designed into the system to reduce lifecycle costs. The validation of the system performance occurs when the system is deployed, and therefore the reduction in credits for the system not meeting operational effectiveness and suitability can be made more severe. The value per credit can be adjusted based on the program phase and the type of program. For example, the first increment can be assigned higher values if it results in a base platform with later increments being allocated lower values since they are likely smaller programs. The model offers several levers that can be adjusted based on observed performance.

Necessary Conditions for the Program Credit Approach

For the program credit scheme to be considered for implementation, the necessary conditions are outlined below. These conditions will not be sufficient, as a detailed implementation plan will require several additional factors to be considered:

- Measurement metrics for the program need to be established using the Acquisition Program Baseline, which captures the program manager and thus the team commitment to cost, schedule, and performance goals.
- Post-deployment measures of mission completion rates or other performance measures used to assess system effectiveness and suitability can be used as a measure of performance in the Operations and Sustainment phase.
- A determination of changes in metrics due to factors beyond the program management office control, such as threat changes, unit cost changes due to quantity differences, and Nunn-McCurdy breaches must be assessed.
- An independent body akin to the Government Accountability Office (GAO) and Office of Management and Budget (OMB) must be established or



leveraged to assess the performance against the goals to determine and assign program credits.

- A definition of the acquisition workforce and a fair assessment of the workforce that would be eligible for program credits need to be made.
- A fair process to allocate program credits to team members that is tied to goal achievement by the team and the individual's contribution must be established.
- Legislative action to establish funding for program credits and authority to execute a program credit scheme will be required.
- An enhanced personnel information system to track program credits from allocation to vesting will need to be implemented.

There is precedent in the current process for meeting some of the necessary conditions. For example, including Operations and Support costs in program baselines has been a challenge since these costs are not appropriated by program. However, Performance Based Logistics agreements measure performance outcomes, and these measures along with readiness measures can be used to determine program credits in the Operations and Support phase. Acquisition Program Baselines can be used to determine goals the program teams need to achieve.

Potential Benefits and Unintended Consequences

This long-term rewards approach will reduce the compensation differential between working for private industry and working for the DoD while supporting a high value mission for the nation. Program offices will be able to attract the best and brightest from both within and outside the government, increasing the pool of talent to choose from. Greater numbers of military officers, who rotate into and out of acquisition positions, may now want to make a career in acquisition (legislative changes will be required to permit this choice). The relatively higher compensation for the acquisition workforce within acquisition may result in morale problems for the workforce in non-acquisition jobs across the DoD. There is, however, precedent for agencies within the federal government to support higher compensation for highly qualified individual as in the Food and Drug Administration (FDA) for highly specialized scientists. Individuals and teams will look for the most cost effective ideas to meet both current targets and reduce long-term sustainment costs. The workforce will be motivated to champion innovations from the technology industry and support faster integration into weapon systems. Solutions from international partners will be evaluated for a faster time to market. This change is expected to be driven not only by the external rewards instituted, but also the recognition of the value of these efforts in instituting such a system of rewards. The increased recognition of the acquisition work effort by this scheme should also prompt functional areas like contracting to exhibit desired behaviors to a greater degree, such as more committed negotiations and seeking best value for taxpayer dollars.

Potential unintended consequences include program teams becoming advocates for programs instead of impartial executors of programs. Additional negative impacts could include program data manipulation to skew performance results for increased rewards. These consequences will need to be addressed via checks and balances in the system much as they exist in the current business processes. The proposed approach will require the development of a complex information system to administer and audit the Program Credit scheme, but the benefit may be a comprehensive view of program performance data to address other systemic problems along with improvements in program execution.

A systemic change will result in consequences, and the positive and negative impacts will need to be monitored to adjust the system.



Conclusions

Improvements in defense acquisition cannot be realized without the engaged participation of the acquisition workforce. Defense enterprise experts have articulated that workforce incentives have to be a key component of improvement initiatives. While the role of incentives in enhancing intrinsic and extrinsic motivation is debated in academic circles, there is evidence that a well-constructed incentive scheme combined with robust human resource management practices can improve individual and organization performance. Acquisition offers additional advantages of being a high purpose work environment with opportunities to innovate that can further enhance intrinsic motivation.

The paper proposes a notional approach for incentives that are tied to the achievement of cost, performance, and schedule goals including long-term sustainment goals. Additional research is needed to validate the factors that would enhance intrinsic and extrinsic motivations of the workforce. Research is also suggested for understanding and measuring individual contributions in a team setting, which is the organization model for many programs. Additional items for further investigation include the necessary conditions required to implement the model, including the legislative changes required.

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